**Sulfosuccinates Category – Comments of Environmental Defense**

(Submitted via Internet December 17, 2001)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for the sulfosuccinates category.

The Synthetic Organic Chemical Manufacturers Association (SOCMA) proposes to group three sulfosuccinates into a category and concludes that no additional studies are needed. We do not find the scientific justification for category formation convincing in this case, particularly in light of the fact that there is clearly the opportunity for chronic human exposure to the sulfosuccinates. These substances are used as surfactants, adjuvants in tablets, emulsifying agents in food, as well as ingredients in detergents, cosmetics and vitamin preparations

SOCMA states that all three members of the proposed class possess identical functional groups. This is really not correct. While the ethylhexyl, dimethylbutyl and cyclohexyl esters do all have the succinic acid sulfo groups in common, the R side chains are very different. Clearly, a cyclohexyl group is different than a dimethylbutyl group. If all three proposed members were rapidly degraded and/or metabolized in the environment and in the human body to a common metabolite or degradation product, then the proposed category would be more plausible. But this is not the case; less than half of the sulfosuccinates are excreted in the urine of rats by 24 hours after exposure. This indicates a relatively slow metabolism and therefore provides the opportunity for distribution of the parent compound to various organs and cells after exposure. Since the sponsor did not provide evidence that the proposed members act via a common mechanism, the criteria for category formation under the HPV program have not been met. One way to generate credible information on a common mode of action is to determine if all the members of a proposed class cause the same pattern of gene expression changes in in vivo or in vitro systems.

The existing data presented in the test plan and robust summaries on the ethylhexyl ester is more than adequate to fulfill the requirements of the HPV program. It includes a full 2-year bioassay, other repeat dose studies, and appropriate reproductive and developmental studies. Repeat dose studies are also available for the cyclohexyl and dimethylbutyl esters. The problem is that there are no developmental toxicity studies for either of these two esters. Also, the sponsor claims that histopathology evaluations of the reproductive organs from the repeat dose study are adequate for the requirement for a reproductive study. We disagree. Our greatest concern is for the need to conduct a developmental toxicity study for the cyclohexyl ester, given that the ethylhexyl ester is teratogenic including exencephaly and spinabifida.(Though it is something of a close call, extrapolating from ethylhexyl ester to dimethylbutyl ester appears to be acceptable; as a result, we do not believe that a developmental toxicity test for dimethylbutyl ester is needed.)

In short, we do not think that the scientific evidence for formation of the category as proposed is adequate at this time. Our concerns about proceeding with an inadequately justified category in this instance are heightened by the fact that there is significant opportunity for human exposure from a variety of uses of these substances, and by the known toxicity of some of the compounds in this class with respect to some endpoints.

Thank you for this opportunity to comment.

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